

between the forty-third and sixtieth parallels and the twentieth and fortieth meridians. The British tanker *Lustrous* noted force 12 late on the 25th, when at about 45° N., 23° W. Two other vessels noted force 10 about that time, in positions considerably northwestward from the *Lustrous*. Chart IX shows the situation on the morning of the 26th.

**Tropical storms.**—Mention has been made of the tropical storm which was near the Bahama Islands on the 6th. This was apparently of minor importance till it had moved north of the Tropic of Cancer. Also the less important storm in about the same region a few days earlier has been mentioned; but this probably did not even start south of the Tropic. About the middle of the month a depression was noted to be moving northwestward, passing close to the Virgin Islands, but it seems never to have reached marked strength, and by the 21st, between the Bahamas and Bermuda, it ceased to be identifiable. One radio report indicated force 9 on the 17th, in connection with this storm, but no mail report of more than force 7 has come to hand. Other than these, North Atlantic waters south of latitude 30° seem to have had no storm of any consequence during September.

**Fog.**—While there seems to have been comparatively little fog in the steamship lanes east of the thirty-fifth meridian, reports indicate that over and near the Grand Banks there was generally a little more fog than is usual during September. The 5° square, 45° to 50° N., 45° to 50° W., took the lead in this area, having fog on 10 days; it was especially prevalent during the third week. Near the American coast several squares had considerably more than normal occurrence of fog, the square 40° to 45° N., 65° to 70° W., reporting 16 days.

# WATERSPOUT OVER CHESAPEAKE BAY, SEPTEMBER 12, 1934

[Abstract of a report by John J. Murphy, in charge of Weather Bureau Office, Norfolk, Va.]

Between 10:06 and 10:21 a. m. September 12, 1934, a fully developed waterspout was observed over Lynnhaven Roads, in extreme lower Chesapeake Bay, about a mile off shore, and 10 to 12 miles east-northeast of Norfolk. It formed beneath a heavy cumulo-nimbus cloud out of which rain was falling, traveled at a rate of about 10 m. p. h. in a westerly or northwesterly direction, and rotated counterclockwise.

The spout was located at some distance in front of the rain sheet which accompanied the thundercloud. Formation of the spout was not observed, but its disappearance began with a break at a point in midair, between cloud and water surface. By a fortunate coincidence, Lt. Critchfield Adair, United States Navy, was aloft in an airplane near the scene, and he flew to and circled the formation to make careful observations. He is quoted in the Norfolk Virginian-Pilot of September 13, as follows:

"The spout's top ended in the clouds, 1,000 feet above the water. Dark and funnel-shaped, it appeared to me to be based in a white ball of spray 125 feet in diameter. A little higher it narrowed abruptly to about 30 feet and spread out to about 100 feet in diameter at the top."

Lieutenant Adair is also reported to have observed that the moving spout left a sharp and well-defined wake on the surface of the bay. Observers on shore described the sea surface as greatly agitated at the base of the spout, with spray carried to an estimated height of 50 feet.—*W. F. McD.*

## OCEAN GALES AND STORMS, SEPTEMBER 1934

Vessel	Voyage		Position at time of lowest barometer		Gale began	Time of lowest barometer	Gale ended	Lowest barometer	Direction of wind when gale began	Direction and force of wind at time of lowest barometer	Direction of wind when gale ended	Direction and highest force of wind	Shifts of wind near time of lowest barometer
	From—	To—	Latitude	Longitude									
NORTH ATLANTIC OCEAN													
Black Gull, Am. S. S.	Antwerp	New York	50 24 N.	23 40 W.	Sept. 2	4a, 2	Sept. 2	29.08	WSW.	W, 9	W	W, 9	WSW-W.
Pastores, Am. S. S.	Port-au-Prince.	do	31 18 N.	74 24 W.	Sept. 1	4a, 2	do	29.77	N	NE, 9	NE	NE, 9	
Nubian, Br. S. S.	Antwerp	do	49 57 N.	15 00 W.	Sept. 2	4p, 2	do	29.37	WSW.	W, 8	W	W, 8	WSW-W.
Silvercedar, Br. M. S.	Nassau, Bahamas.	London	48 16 N.	21 54 W.	Sept. 1	8p, 2	Sept. 3	29.56	SW	W, 8	W	W, 9	Steady.
Amor, Du. S. S.	Maracaibo	New York	32 44 N.	76 20 W.	do	9p, 2	Sept. 1	29.73	NNW	NW, 6	NNE	NNE, 9	NNW-NW-SW.
Washington, Am. S. S.	New York	Cobb	50 40 N.	18 00 W.	Sept. 2	Noon, 3	Sept. 2	29.58	NW	W, 7	NW	NW, 8	None.
Marguerite Finaly, Fr. M. S.	Havre.	Cartagena	46 00 N.	12 30 W.	Sept. 5	2a, 6	Sept. 6	29.58	SE	SSE, 9	SW	SE, 10	SE-SSE-SW.
Syros, Am. S. S.	Antwerp	Tampico	26 52 N.	75 19 W.	do	6p, 6	do	29.71	SE	SE, 8	SE	SE, 10	None.
Java Arrow, Am. S. S.	New York	Texas City	29 10 N.	78 00 W.	Sept. 7	6a, 7	Sept. 7	29.53	ENE	E, 5	NE	ENE, 9	E-N.
Orizaba, Am. S. S.	do	Habana	29 36 N.	77 24 W.	do	11a, 7	do	28.92	E	W, 7	W	E, 9	E-W.
West Texas, Am. S. S.	Philadelphia	Houston	32 30 N.	76 20 W.	do	9p, 7	Sept. 8	29.16	E	E, 3	S	SE, 10	E-SE-S.
Sapinero, Am. S. S.	Houston	Lisbon	33 51 N.	75 52 W.	do	2a, 8	do	29.43	ENE	Calm	W	E, 9	SE-N-NW.
Solana, Am. S. S.	Fall River	Houston	36 10 N.	74 33 W.	Sept. 8	6a, 8	do	29.17	SE	SW, 12	WSW	WSW, 12	ESE-SW-WSW.
Amor, Du. S. S.	New York	Curacao	37 50 N.	73 00 W.	do	3p, 8	do	do	SE	SSW, 10	SW	SW, 12	S-SW.
Vacuun, Am. S. S.	do	Beaumont	39 40 N.	73 30 W.	do	6p, 8	do	29.37	ENE	S, 9	SSW	S, 9	ENE-S-WSW.
Pres. Roosevelt, Am. S. S.	Cobb	New York	49 54 N.	24 54 W.	Sept. 9	2p, 9	Sept. 10	29.27	SW	W, 8	W	W, 8	SW-W.
Statendam, Du. S. S.	New York	Rotterdam	50 46 N.	26 31 W.	do	4p, 9	do	29.01	WSW	WSW, 9	W	W, 10	WSW-W.
Emile Franquet, Belg. S. S.	Antwerp	New York	50 39 N.	23 47 W.	do	6p, 9	Sept. 9	29.24	SW	SW, 8	W	SW, 8	SW-W.
Spidoleine, Belg. M. S.	do	do	42 18 N.	55 43 W.	Sept. 12	8a, 11	Sept. 12	29.89	ENE	W, 4	NNE	ENE, 9	S-W.
Adria, Ger. M. S.	Danzig	Baltimore	58 42 N.	8 48 W.	Sept. 11	—, 11	Sept. 13	29.60	SSW	SSW, 9	SSW	S, 10	None.
Scapenn, Am. S. S.	New York	Copenhagen	48 10 N.	50 00 W.	do	2a, 12	Sept. 12	29.80	NNW	N, 8	NW	NNW, 9	NNW-N-NW.
Europa, Ger. S. S.	Cherbourg	New York	48 48 N.	27 12 W.	Sept. 12	7a, 12	do	29.51	S	SSW, 8	WSW	S, 9	S-SSW-NW.
Adria, Ger. M. S.	Danzig	Baltimore	55 30 N.	27 54 W.	Sept. 14	10a, 15	Sept. 14	29.67	SW	W, 2	SW	SW, 9	None.
Calenda, Br. S. S.	Avonmouth	Barbados	14 32 N.	58 24 W.	Sept. 15	8p, 15	Sept. 16	29.93	ENE	NNE, 7	NW	NNE, 7	NE-N.
Vovindam, Du. S. S.	New York	Rotterdam	50 07 N.	6 22 W.	Sept. 17	4a, 17	Sept. 17	29.50	S	S, 8	S	S, 8	None.
Yaka, Am. S. S.	Havre.	Panama City, Fla.	35 00 N.	49 30 W.	Sept. 18	2p, 18	Sept. 18	30.10	SW	WSW, 11	WSW	WSW, 11	SW-WSW.
Gripsholm, Swed. M. S.	Gothenburg.	New York	53 55 N.	35 38 W.	Sept. 22	Mdt. 24	Sept. 25	29.27	WNW	WNW, 10	NW	WNW, 10	WSW-WNW-NW.
Caledonia, Br. S. S.	Glasgow	Boston	54 18 N.	26 54 W.	Sept. 24	9a, 25	Sept. 26	28.94	W	SW, 10	W	SW, 10	SW-W.
Lustrous, Br. S. S.	Preston	Port Arthur	44 45 N.	23 09 W.	Sept. 25	6p, 25	Sept. 25	29.32	SW	WSW, 11	NNW	NW, 12	WSW-NW.
Caledonia, Br. S. S.	Glasgow	Boston	51 05 N.	41 02 W.	Sept. 27	11a, 27	Sept. 27	29.83	NNW	WNW, 7	NW	NW, 9	Steady.
Blankaholm, Swed. M. S.	Kotka, Finland.	Portland, Maine.	57 21 N.	23 30 W.	do	Mdt. 27	Sept. 28	28.15	SSE	SSE, 4	WNW	SSE, 9	SSE-WSW.
Slemmestad, Nor. M. S.	Copenhagen.	Montreal	59 19 N.	23 47 W.	do	Noon, 28	Sept. 29	28.64	SSE	ESE, 6	NW	SSE, 9	SE-NE-N.

<sup>1</sup> Position approximate.  
<sup>2</sup> Barometer uncorrected.